

LAENNECIA TURNERORUM (ASTERACEAE: ASTEREA), A NEW SPECIES FROM TRANS-PECOS TEXAS

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ABSTRACT

Laennecia turnerorum sp. nov., from Brewster County, Texas, is similar to other species of *Laennecia* sect. *Sophiifolium* (*L. coulteri*, *L. sophiifolia*, and *L. mapimiana*) in its annual duration, hirsute-pilose vestiture, acuminate phyllary apices, elaminate ray florets, and small, strigose cypselae with a uniseriate, caducous pappus. It differs from those three species in its stems, leaves, and phyllaries sparsely (vs. densely) glandular, basal leaves persistent at flowering (vs. senescent and usually absent by flowering), reduced vestiture of the phyllaries, and non-acrescent pappus (vs. acrescent). Plants of *L. turnerorum* are spring ephemerals and grow with plants of *L. coulteri*.

RESUMEN

Laennecia turnerorum sp. nov., del condado de Brewster, Texas, es similar a otras especies de *Laennecia* sect. *Sophiifolium* (*L. coulteri*, *L. sophiifolia*, y *L. mapimiana*) en su duración anual, indumento hirsuto-piloso, ápices de los filarios acuminados, flósculos no laminados, y cipselas pequeñas, estrigosas con un vilano caduco uniseriado. Difiere de las otras tres especies en sus tallos, hojas, y filarios esparsamente (vs. densamente) glandulares, hojas basales persistentes en la floración (vs. senescentes y usualmente ausentes en la floración), indumento de los filarios reducido, y vilano no acrescente (vs. acrescente). Las plantas de *L. turnerorum* son efímeras primaverales y crecen con plantas de *L. coulteri*.

Recent collections in trans-Pecos Texas by Dr. B.L. Turner have brought to light a previously undescribed species of *Laennecia* Cass. Plants of the new species, which apparently are spring ephemerals, are currently known from about six plants of a single collection. Their small size, disciform capitula, and short duration probably account for their escape from detection by earlier botanists. Turner returned to the type locality about four weeks after the type collection was made and found that plants of the new species had died and dried essentially beyond recognition, while those of *Laennecia coulteri* (Gray) Nesom at the same site remained alive and in reproductive condition (B.L. Turner pers. comm.).

Laennecia turnerorum Nesom, sp. nov. (**Fig. 1**). TYPE: U.S.A. TEXAS. BREWSTER CO.: Turner's Valentine Section, vicinity of old 'residence,' ca 58 mi S of Alpine along Hwy 118, 29° 34' N, 103° 34' W, 3330 ft elev., intermixed with *Laennecia coulteri*, 21 Mar 2001, B.L. Turner 21-73 (HOLOTYPE: TEX; ISOTYPE: BRIT).

Laenneciae coulteri similis duratione annua, vestimento grosso, foliis superis subamplectentibus vel auriculatis, phyllariis apicibus acuminatis, flosculorum pistillatorum corollis elaminatis, et cypselis parvis strigosis pappo uniseriato caduco; differt statura minore, caulibus foliis ac phyllariis sparsim (vs. dense) glandulosis, foliis petiolatis bipinnatis, et capitulis majoribus.

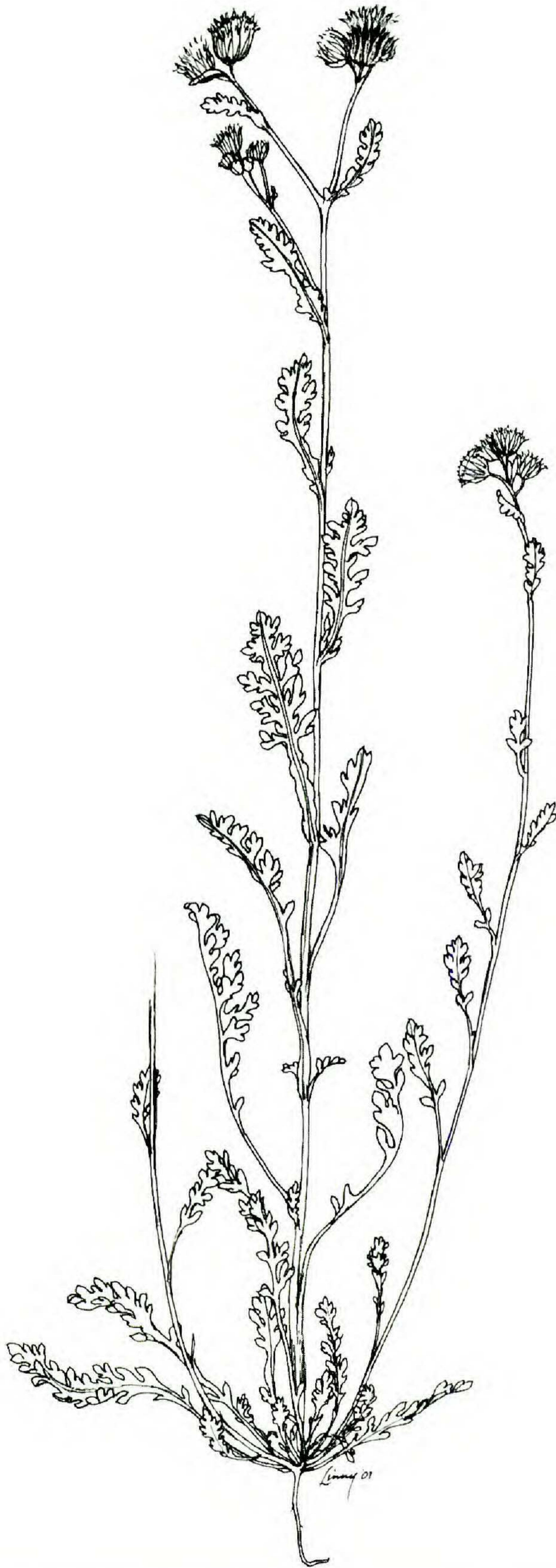


FIG. 1. Habit of *Laennecia turnerorum* (from isotype).

Plants annual, herbaceous, from a slender taproot, producing 1–3 erect to ascending stems from the base, 16–20 cm tall; stems and leaves sparsely and minutely sessile-glandular and stipitate-glandular, also sparsely hispid-pilose with thick-based trichomes 0.2–1 mm long, not at all woolly. *Leaves* basal and cauline, basal and lowermost cauline persistent but sometimes senescent at flowering, 2–5 cm long, blade portion oblanceolate to obovate, 5–12 mm wide, 2-pinnatifid with ovate lobes or segments, lower cauline leaves with narrow, petioliform, non-clasping base, upper cauline gradually reduced in size to 1–2 cm long, becoming epetiolate and clasping. *Capitula* ca. 5–15 in a corymboid or subcorymboid capitulescence; involucre broadly campanulate, 3–4 mm high, 5–7 mm wide; phyllaries in 3–4 series, sometimes fused at the base into a disc 3–4 mm in diameter, the outermost 3–3.7 mm long, 0.8–1 mm wide, 3/4 to equally as long as the inner, completely herbaceous, without an evident midrib or midvein, coarsely hispid along the midportion and sparsely glandular, inner 3.5–4 mm long, narrower, with prominent hyaline flanges on the distal half, all with a hyaline, purplish apex. *Pistillate florets* ca. 200, in 2–4 series, corolla tube 1 mm long, whitish, lamina absent. *Bisexual florets* 15–18, corollas tubular, 2.2 mm long, yellow, with purple lobes 0.2–0.3 mm long. *Cypselae* elliptic-oblong, 0.8–1 mm long, tan, sparsely short-strigose, sparsely sessile-glandular at the apex; pappus uniseriate, of 16–18 fragile, white, caducous, non-acrescent barbellate bristles ca. 2 mm long, slightly longer than the style branches of pistillate florets, slightly shorter than the disc corollas.

Etymology and distribution.—The epithet commemorates the two Turners: Billie, who collected the plants in the course of preparing a florula of the “Valentine Section” (640 acres), and his wife Gayle, who surprised Billie with a Valentine’s Day gift of the property. The area is in a large basin essentially surrounded by desert mountains. The plants of *Laennecia turnerorum* were collected in silty limestone-derived soil in a low area with desert grasses; abundant *Larrea*, scattered *Yucca*, and other shrubs occur slightly upslope. Although the immediate site has been slightly disturbed, plant species in the area apparently are native.

Within the genus, *Laennecia turnerorum* is a member of sect. *Sophiifolium* Nesom (Nesom 1990a), the plants characterized by their annual duration, hirsute-pilose vestiture, elaminate corollas in pistillate florets, and relatively small, strigose cypselae with very small, deciduous glands and a uniseriate pappus of basally caducous bristles. The other North American species of sect. *Sophiifolium* are *L. coulteri* (Gray) Nesom (southwestern USA through northern Mexico), *L. sophiifolia* (Kunth) Nesom (southwestern USA through Mexico and Guatemala, then apparently disjunct to northern South America), and *L. mapimiana* Nesom (northeastern Durango, southeastern Chihuahua; Nesom 1990b). Among these, *L. turnerorum* is most similar to *L. mapimiana* in its short duration (spring ephemeral), relatively small stature, sparsely glandular

vestiture, basal leaves persistent until flowering, leaves non-clasping below, subclasping to clasping above, corymboid capitulescence, and relatively large capitula. *Laennecia turnerorum* can be identified among its most closely similar congeners by contrasts in the key below.

KEY TO NORTH AMERICAN SPECIES OF *LAENNECIA* SECT. *SOPHIIFOLIUM*

1. Leaves clasping to subclasping, oblong in outline with a broad lamina, sharply toothed, the teeth cut 1/4–1/3 to the midrib _____ ***Laennecia coulteri***
1. Leaves clasping or not, oblanceolate to obovate-spatulate or oblong in outline, pinnatifid to 2-pinnatifid, the segments cut 2/3–3/4 to the midrib.
 2. Plants (15–) 30–70 cm tall; leaves not clasping; capitulescence paniculiform, columnar to pyramidal; involucre 1.5–2.5 (–3.5) mm wide _____ ***Laennecia sophiifolia***
 2. Plants 9–20 cm tall; at least the upper leaves clasping; capitulescence corymboid to subcorymboid; involucre 5–7 mm wide.
 3. Plants 7–10 cm tall, stems strongly decumbent; leaves 1–2 cm long, oblong to obovate-oblanceolate in outline, petiolate or with a short, weakly differentiated petioliform portion, blades 3–6 mm wide, 1(–2)-pinnatifid; pappus of 9–12 bristles _____ ***Laennecia mapimiana***
 3. Plants 16–20 cm tall, stems erect to basally ascending; leaves 2–5 cm long, spatulate in outline, petioliform portion strongly differentiated, blades 5–12 mm wide, 2-pinnatifid; pappus of 16–18 bristles _____ ***Laennecia turnerorum***

Direct comparisons of *Laennecia turnerorum* to *L. coulteri* and *L. sophiifolia* are as follows.

* **similar** to *L. coulteri* in its subclasping upper leaves; **different** in its short duration, sparsely glandular vestiture, smaller stature (16–20 cm tall vs. [20–]30–110 cm), smaller (1.5–2 cm long vs. 1.5–10 cm), petiolate, bipinnatifid cauline leaves, non-clasping lower leaves, basal leaves present (vs. absent) at flowering, corymboid capitulescence (vs. columnar-paniculate to corymboid), and larger capitula (5–7 mm wide vs. 3–5 mm).

* **similar** to *L. sophiifolia* in its pinnatifid leaves and non-clasping lower leaves; **different** in its short duration, sparsely glandular vestiture, smaller stature (16–20 cm tall vs. [15–] 30–70 cm), slightly smaller (1.5–2 cm long vs. 1–4 cm) cauline leaves with shorter, broader segments, the upper leaves subclasping to clasping, basal leaves present (vs. absent) at flowering, capitulescence corymboid (vs. columnar- to pyramidal-paniculate), larger capitula (5–7 mm wide vs. 1.5–2.5[–3.5] mm), and greater number of pappus bristles (16–18 vs. 9–12[–15]).

The geographic range of *Laennecia turnerorum* and its relationship to *L. mapimiana* should be studied by search during the early spring. The latter also appears to be narrowly distributed; it is separated at its closest point by about 300 kilometers from the *L. turnerorum* locality. Both taxa are highly restricted in range compared to *L. coulteri* and *L. sophiifolia*.

The new species brings the number of species in *Laennecia* to 18 (Nesom 1990a, 1990b, 1992). Morphological and molecular data (Zardini 1981; Nesom

2000; Noyes & Rieseberg 1999) indicate that the genus is not closely related to *Conyza* Less., where most of the species have been placed previously. *Laennecia* instead apparently is related to South American groups, possibly most closely to subtribe Podocominae (Nesom 1994, 2000).

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REFERENCES

- NESOM, G.L. 1990a. Taxonomy of the genus *Laennecia* (Asteraceae: Astereae). *Phytologia* 68:205–228.
- NESOM, G.L. 1990b. *Laennecia mapimiana* (Asteraceae: Astereae), a new species from northwestern Mexico. *Phytologia* 69:348–350.
- NESOM, G.L. 1992. *Laennecia spellenbergii* (Asteraceae: Astereae), a new species from Durango, Mexico. *Phytologia* 73:267–269.
- NESOM, G.L. 1994. Subtribal classification of the Astereae (Asteraceae). *Phytologia* 76:193–274.
- NESOM, G.L. 2000. Generic conspectus of the tribe Astereae (Asteraceae) in North America, Central America, the Antilles, and Hawaii. *Sida, Bot. Misc.* 20:i-viii, 1–100.
- NOYES, R.D. and L.H. RIESEBERG. 1999. ITS sequence data support a single origin for North American Astereae (Asteraceae) and reflect deep geographic division in *Aster* s.l. *Amer. J. Bot.* 86:398–412.
- ZARDINI, E.M. 1981. Contribuciones para una monografía del género *Conyza* Less. II. Rehabilitación del género *Laennecia* Cass. *Darwiniana* 23:159–169.